



- Photo by Robert L. Stevenson

Training Lethal Tank Crews and Sections

by Lieutenant Colonel Mark Pires

As a battalion commander, I was very concerned with the training of tank crews. I felt the gunnery program that armor units follow provided extensive live-fire crew training. However, I felt our force-on-force training model, followed by the great majority of armor units, lacked an important step; training lethal crews. I believe that training lethal crews is important because battles and engagements are won at platoon level. Platoons will only be lethal if they are composed of lethal tank crews.

Force-on-force training normally starts at platoon level. By skipping training at the crew and section level, important fundamental crew-level skills are not taught and drilled. Gunnery training teaches many crew-level skills, however, there are many other crew-level skills and drills that can't be integrated into live-fire gunnery. Adding simple crew- and section-level training to our force-on-force training models can pay big rewards and prepare crews for higher echelon training.

The objective of crew and section force-on-force training is to develop lethal crews and sections so that all contribute to the fight. This is accomplished by focusing on fundamental skills at the lowest level.

Why This Is Important

Battles and engagements are won at the platoon level. At company, and especially at battalion level and higher, commanders can lose battles, but not win them. The best a battalion commander can do is to set companies and platoons so that they can be successful. This is true because the vast majority of killing is done at platoon level. Obstacles and indirect fires will account for some enemy kills, but most will come from direct fire systems.

Vignette: Perfect Engagement Area. Imagine a perfectly developed engagement area (EA). The battalion commander selects the best possible ground covering the enemy avenues of approach. Obstacles are sited and constructed to turn the enemy into the EA, then disrupt and fix him at critical points. Indirect mortar and field artillery fires are planned to suppress the enemy as he attempts to breach obstacles and establish firing positions.

The enemy moves into the EA, is slowed by the obstacles and suppressed by the indirect fires. However, due to a lack of fighting skills, the tank crews and platoons cannot kill the enemy vehicles. Eventually the enemy will

breach the obstacles, move through the indirect fires, and kill the friendly force, or force them to withdraw.

The same logic applies to a unit attacking a defending enemy, or involved in a meeting engagement. No matter how well the conditions are set, a unit cannot win a battle or engagement unless tank crews and platoons are able to physically destroy the enemy.

I've often heard or read that commanders should identify their killer crews and put them at the most critical point on the battlefield. I could not disagree more with this idea. At best, it represents a gamble. We can never be assured of knowing where the critical point of a battle will be. There could be several critical points. Relying on a portion of the force to be at the critical point in all battles is not efficient and will usually not be effective. The solution is to train all crews to be killer crews.

Comparison of Gunnery and Force-on-force Training Models

In order to make a point concerning how we think about live-fire versus force-on-force training, let's look at two typical training models.

Gunnery:

The following are all the training events a crew goes through prior to participating in a platoon-level live-fire event:

- Unit Conduct of Fire Trainer (UCOFT): Required reticle aim for tank commander and gunner prior to live fire.

- Tank Crew Gunnery Skills Test (TCGST): Required for all crew members prior to live fire.

- Tank Crew Proficiency Course (TCPC): Required for all crews prior to live fire.

- Tank Table V: Required for all crews prior to Tank Table VII.

- Tank Table VII: Required for all crews prior to Tank Table VIII.

- Tank Table VII: Required for all crews prior to Tank Table XII, Platoon Battle Run.

Once all of the above requirements are successfully completed, crews are allowed to participate in platoon-level live fire. Now let's look at a normal force-on-force training model.

Force-on-force:

No requirements at tank crew or section level. No training normally done at crew or section level. Training normally starts at the platoon level.

The point is that when we, the Armor force, conduct live-fire training, we spend the vast majority of our time and resources on ensuring our individual crews are well trained. In fact, we will not allow our crews to participate in higher-level events until they pass rigorous, set standards. When conducting force-on-force training, we skip crew training and start at the platoon level. However, there are critical skills which are not adequately taught in live-fire (gunnery) training. Most of these critical skills which are not adequately taught as part of gunnery training are omitted due to live-fire or range restrictions.

What gunnery training doesn't teach crews: (The following list is not intended to degrade or discredit gunnery training. It is, however, important to understand the limitation of gunnery training so that required skills can be trained during force-on-force training).

360-degree security. Obviously it is very difficult, if not impossible, to create scenarios that stress 360-degree

security during live-fire training. In fact, we normally teach bad habits concerning all-around security. As an example, consider what we teach loaders during gunnery training. Loaders are taught to scan to the front and left front of the tank to help find targets. The loader's actual primary areas of responsibility are the rear and left flank of the tank. Teaching loaders to help find targets to the front during gunnery reinforces bad habits which are hard to break. Training loaders to remain focused to the rear and flank is difficult at best. Human nature is such that we want to look toward where the action is happening, or where we expect it to take place. In reality, even if the tank is locked on a target to the front, the loader should still be focused on the flank and rear in order to prevent the tank from being ambushed from a different direction. Interlocking, 360-degree security for platoons starts with all-around security at the crew level. At our CTCs, breakdowns in all-around security often result in platoons or companies being ambushed and destroyed from the flank or rear.

Terrain driving. The configuration of most gunnery ranges does not require or teach terrain driving. Crews move on course roads and are not required or allowed to make decisions concerning use of terrain. Crews are told where to move and which firing positions to occupy. During offensive engagements, crews cannot fully react to contact by veering off the road to a hull or turret down position. Moving to a hull or turret down position while under contact requires quick terrain analysis and decision making by the TC and driver.

Complex target acquisition. Gunnery training does require, and train, target acquisition. However, acquiring a live enemy that thinks, reacts to contact, uses terrain, etc., is much more difficult than scanning for plywood targets on a range. Due to the time standards and targets used during gunnery training, crews almost always use rapid scanning. When attempting to spot exhaust plumes, antennas, a TC's head, dust trails, glare off binoculars or optics, or other signatures given off by a live enemy, crews must be proficient at detailed scanning.

Crew drill in an unconstrained environment. Tank crews often struggle with basic crew drills when they are moving and fighting outside of a controlled gunnery environment. For example, consider a crew that is moving

and makes enemy contact to the right flank in a force-on-force battle. Often, the tank commander will react to the contact by yelling "Right, Right!". Is the TC telling the gunner to swing the turret right, the driver to turn to the right, or both? On a gunnery range, the driver knows the TC is talking to the gunner because the tank cannot turn off of the course road. However, in an open training area, such commands cause confusion among the crew and it is not uncommon for a tank to turn a flank to the enemy or wind up in a ditch. When a tank crew doesn't have a course road to follow, the TC must be more precise in the instruction he gives the crew. Confusion that causes the loss of even a few critical seconds can result in a dead tank crew and destroyed vehicle.

MILES gunnery. It is important for crews to be proficient in the use of MILES equipment. This increases the quality of force-on-force training exercises and helps crews focus on lessons learned, rather than whether or not the MILES gear works.

Other skills not practiced during live fires. There are other various skills that crews do not normally get to practice during gunnery training. Crews do not get the chance to dismount loaders or TCs to scan over IV lines prior to the tank moving forward. The configuration of gunnery ranges with set course roads does not allow crews to move to alternate firing positions.

The skills listed above are some of the most basic, fundamental skills required of a lethal tank crew. They are skills that seem simple, but require practice and repetition to master. Unfortunately, they are also skills that we often overlook in training.

Training Lethal Tank Crews and Sections:

As previously stated, force-on-force training normally starts at platoon level. The problem with starting at platoon level is the focus of observation and feedback is on the platoon, not training crews or sections.

Although crews will learn and improve during platoon, company, and battalion/task force operations, the focus of evaluation and feedback will be at those particular levels. Crews will not focus and receive feedback on the fundamentals of crew drill. Think of this in terms of gunnery.

Would we ever reach the same level of crew proficiency if we started gunnery training at platoon level?

If gunnery started at platoon level, the focus would be on fire distribution, command and control, reporting, cross talk, platoon movement, etc. This would detract from feedback to individual crews. Crew training would suffer. Crews would be more likely to miss targets, making the platoon less effective.

Similarly, by starting force-on-force training at platoon level, we normally fail to identify crews that are not contributing to the fight. Even if non-lethal crews are identified, their specific shortcomings are not analyzed and identified and they are not given training to correct deficiencies. Non-lethal crews are simply sent out for the next platoon, company, or battalion mission.

Additionally, starting at platoon level does not provide new lieutenants and newly promoted tank commanders time to learn how to fight their tank. A lieutenant who is thrown into a platoon-level exercise will focus on the platoon, not the finer points of commanding and fighting his tank. The same point applies to sergeants who are commanding a tank for the first time.

Starting force-on-force training at the crew and section level solves these problems. This particular training is known as "king of the hill," "jousting," or "cage matches" (four go in, one comes out). Find a 3 km by 3 km piece of ground. Put a tank in each corner of the box. Designate an objective in the center of the box to provide orientation. Whoever is controlling the exercise tells the tanks to begin fighting. Every tank is on its own, trying to kill the other tanks. The last tank alive wins. Tanks can move anywhere within the 3 km square box.

The company commander, 1SG, XO, master gunner, or other designated representatives can act as observer controllers (OC) and coaches. The OC tells the tank crews when to start and stop the fight, controlling the training via a radio control station. As with tank gunnery, it is critical to keep all crews up on the radio net. Crews that do stay on the net waste valuable training time. In order to keep the training moving, it is a good idea to designate a time limit for each match. This prevents the crews from going to ground, waiting in ambush positions. Normally each cage

match should be complete in 20 to 30 minutes.

The match ends when only one tank is left alive. Once the fight is complete, the crews meet for a brief after action review (AAR). The crews provide most of the feedback to each other. The OC facilitates the AAR and can provide additional feedback to the crews. The company commander, XO, 1SG, or master gunner should track results. The goal is to identify crews that are normally killed without demonstrating the ability to kill other crews. When a non-lethal crew is identified, specific shortcomings must be identified and corrected. Common problem areas are discussed below under "Training Objectives." The key to successfully developing lethal crews is identifying weaknesses and retraining until those weaknesses are corrected.

Cage matches should be conducted both day and night. Because this training is conducted at the beginning of a force-on-force training cycle, the first night of training may be used for drivers familiarization training. This gives drivers a chance to practice driving cross country in limited visibility at a slower pace prior to engaging faster-paced training. All crews should participate in multiple iterations of both day and night matches. Multiple iterations enable learning to occur at a much greater rate. Normally during platoon lanes, a crew will be part of one or two iterations per day. Additionally, depending on how the fight goes, a crew may not be involved in the action. With multiple cage match iterations per day and night, a crew can be involved in many fights and learn numerous lessons. This increases learning.

Training Objectives

As discussed earlier, this training is designed to teach and refine the most fundamental skills required of lethal tank crews. This is one time that leaders want to get into the weeds.

360-degree security. With tanks coming from the four corners of the square, there is a constant threat to the flanks and rear. The crew must maintain all-around security at all times. The requirement for 360-degree security continues even when the crew has identified the location of an enemy tank. While the gunner remains locked on the enemy tank, the TC and loader should continuously search to the flanks and rear to identify additional threats. As

previously stated, this requires great discipline and is difficult to teach. Crew and section training is a tremendous opportunity to focus on and reinforce this requirement. Units should develop SOPs that clearly describe crew responsibilities for security. For example, our SOP was that the loader's M240 machine gun would be swung around to face the rear of the turret. When the loader was up in the hatch, he was required to keep both hands on the M240 handles. This ensured that the loader would face the rear of the vehicle. Even with this SOP, I occasionally observed loaders cheating. They would put their hands on the M240 handles, their bodies facing the rear, but turn their heads around so they could look to the front of the tank to see what was happening forward. As I said, this requires a great deal of discipline and constant emphasis.

Terrain driving. All crewman, especially the TC and driver, must be able to instantly recognize and select the most advantageous terrain. Crewmen must be able to do this while moving cross-country. This skill includes the ability to identify inter-visibility (IV) lines and hull or turret defilade fighting positions. The desired end state is for the crew to be able to move with a minimum of verbal instruction from the TC. The ultimate training state is for the driver to move a general direction of movement given by the TC. During platoon operations, wing tanks normally follow the lead of the platoon leader or platoon sergeant. One result is that commanders and drivers of wing tanks do not have the opportunity to exercise decision-making concerning terrain.

Target acquisition. The ability to acquire targets quickly is crucial in tank engagements. Target acquisition is often challenging and requires attention to detail from the entire crew. Each crewman must understand their responsibilities and actively seek to acquire targets. The crew should have an SOP that assigns areas of responsibility. Each crewman must understand cues to look for in acquiring targets. Spotting enemy vehicle antennas, heat or exhaust signatures, dust trails, a TC's head looking over an IV line, a vehicle hidden in a wood line, etc., often requires detailed scanning by all crewmen.

Crew drill. This term encompasses many things. A tank crew is a team.

Everyone in the crew must understand how the other crewmen think and what to do in a wide variety of situations. A force-on-force environment presents a greater array of variables and requires a larger set of possible responses. For example, if the tank is moving and receives enemy fire, does the TC want the driver to automatically turn the front of the tank toward the enemy? As with this example, many of the drills that need to be established fall under actions on contact.

MILES gunnery. All crews should be able to kill at ranges between 2500-3000 meters. This requires becoming experts at boresighting. Battalions and companies should have boresighting SOPs for both, with and without boresight kill indicators. Crews must be able to kill both moving and stationary targets at extended ranges. We normally found that by the end of first day of cage matches, most crews had significantly increased the distance at which they were able to kill. Crews must also learn how to maintain MILES equipment, including how often to clean the transmitter window and how often to change batteries.

Leader tanks. Besides the training objectives listed above, leader tanks (company commander, executive officer, platoon leader, platoon sergeant) have additional training goals. Leaders need to focus on command and control (C2). The crews on leader tanks need to develop SOPs that free the leader to focus on C2 responsibilities. Communication between the crew must be kept to a minimum so that the leader can monitor and transmit on two radio nets. Cage matches are an excellent time for leader tanks to work out SOPs that minimize talking and enable the leader to focus on the platoon or company.

Once training objectives are met and crews have become proficient in required skills, move to section-level matches. Normally one to two days at crew level is sufficient to attain training objectives. Section-level matches are conducted in the same manner as crew-level matches. Matches are conducted on 3 km by 3 km piece of terrain. We normally had three sections in a match. Two sections do not provide a 360-degree battlefield because once the enemy section is spotted, there is no longer a threat to the flanks and rear.

Training Strategy

Armor units already have busy training schedules, so adding even a few

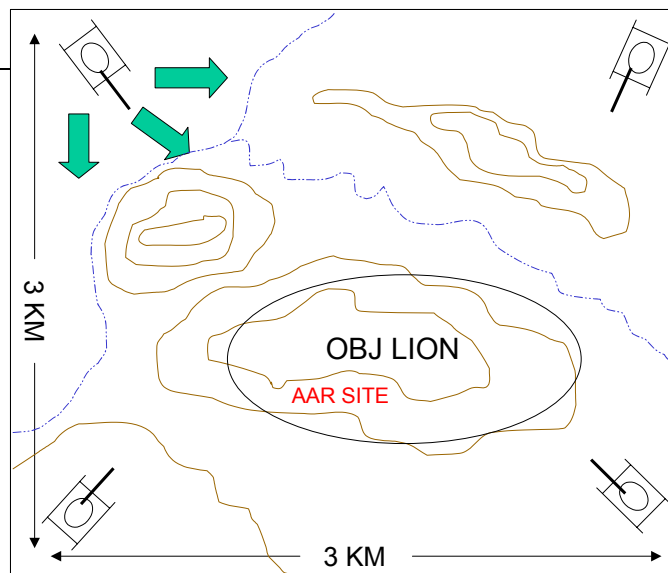
more days for crew and section training can be difficult. Here are three methods for fitting this training into a busy schedule.

Cage matches can be programmed at the start of a force-on-force training density. Prior to starting platoon-level training, program several days for individual tank and section matches. This will require about three to four days, one of the days being a maintenance day prior to starting platoon-level training. If the training density includes platoon-, company-, battalion-, and perhaps even brigade-level training, the addition of three to four days can be a significant, if not impossible, hurdle to overcome. I believe it is worth trimming a few days of higher-level events in order to conduct crew and section training.

A second strategy is to add cage matches to the end of gunnery densities. We used this strategy several times when major force-on-force training exercises were scheduled several weeks or months after gunnery. After a company completes the last live-fire table, it has a day to download brass and ammo, conduct maintenance, install MILES gear, upload blank ammo, and complete any other necessary tasks. The company then roadmarches to a training area for crew and section training. When the training is complete, the company roadmarches to the wash rack and begins after-operations maintenance.

A third strategy is to conduct the training during a company green week. The company rolls to the field early Monday morning. The company conducts crew and section training through Thursday night. The company roadmarches back to the wash rack early Friday morning. This training is easy for a company to execute because it is fairly easy to resource. This strategy also gives company commanders the chance to take their unit out for training without the umbrella of a higher headquarters.

We used all three of these strategies very successfully. The one we used



depended on our training schedule, the sequence of events, and time available. If our schedule was such that we were critically limited on time, we would reduce or eliminate the section-level matches. The bottom line is that we conducted the training sometime prior to starting platoon-level training. Other strategies would also work. For example, a platoon could deploy for three to four days to conduct this training.

Conclusion

Conducting crew and section force-on-force training produces lethal crews, sections, and therefore, platoons. The training is not resource intensive. The major requirements are time and training areas. A great deal of learning occurs in a short period of time. Crew confidence soars. An added bonus is that crews love this training. They don't want to be killed by fellow platoon or company mates; bragging rights are at stake. This training is about the most fundamental skills required of lethal tank crews, seemingly small things that make a huge difference.

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